

Notice of Allowability

Application No.

10/614,110

Applicant(s)

TAKANO, TAMAE

Examiner

Art Unit

Belur V Keshavan

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08 July 2003.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☒ The drawings filed on 08 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 08 July 2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

Claims 1-30 are allowed.

Examiner's Statement Of Reasons For Allowance

The following is an examiner's statement of reasons for allowance:

The invention is related to a method of manufacturing a semiconductor device comprising a p-channel and a n-channel thin film transistors (TFT) on the same substrate wherein island shaped crystallized semiconductor films from an amorphous semiconductor film layer are formed with optimum degrees of crystallization and crystal orientations required to fabricate both n-channel and p-channel TFTs on the same substrate with desired electrical characteristics. The prior art does not teach the method of manufacturing of a semiconductor device comprising both n-channel and p-channel TFTs on the same substrate formed from an amorphous layer and wherein the electrical properties of the TFTs are tuned by controlling the degree of crystallization and crystal orientations during the conversion of amorphous layer to poly crystalline layer.

The limitations are found in claims 1-30, which are neither disclosed nor taught in prior art of record alone or in combination as claimed.

The primary reason for the allowability of claims 1-30 is the inclusion therein, in combination as currently claimed of the limitation of a method of manufacturing a semiconductor device comprising both n-channel and p-channel TFTs on the same substrate

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comprising inter alia the following limitations: adding a catalyst to a part of a semiconductor film and heating the semiconductor film to form a first region in which crystal grows in a direction parallel to the substrate (claim 2) or in a direction perpendicular to the substrate (claim3) and a less crystallized second region than the first region; a first laser light irradiating the first region to create a third region which is more crystallized than the first region and a second laser light irradiating the second region to create a fourth region which is more crystallized than the second region; patterning the third and the fourth regions to form the first and the second island shaped regions, wherein the first laser light and the second laser light have the same energy density, and wherein the scan speed of the first laser light is faster than that of the second laser light.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Belur V Keshavan whose telephone number is 571-272-1894. The examiner can normally be reached on 8-4:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BVK. *bvk*
November 30, 2004.

Belur V. Keshavan.
Examiner. Art Unit 2825.



MATTHEW SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800